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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,392	03/05/2002	Ioannis Katsavounidis	INTV.012A	8446

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Rosenberg Klein & Lee
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Ellicott City, MD 21043

EXAMINER

WONG, ALLEN C

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/092,392	Applicant(s) KATSAVOUNIDIS ET AL.	
	Examiner Allen Wong	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1, 11 and 22 have been read and considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-7, 11, 12, 15, 16, 18-20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhee (6,289,054) in view of Ayanoglu (5,600,663).

Regarding claims 1, and 3, Rhee discloses a method of providing forward error correction (FEC) to a frame, the method comprising the steps of:

packetizing the data frame into a plurality of frame packets (col.6, ln.10-23, note in fig.4, note adapter 414 computes the packets for preparation of packetization and transmission of packet data at element 408);

selecting portions of packet data from each of the plurality of frame packets (col.6, ln.10-23, note in fig.4, the adapter provides data to the transmitter 408 for selected packet data portions);

generating a forward error correction code for the selected portions of packet data (col.6, ln.10-19; FEC bits are generated); and

transmitting separately the forward error correction code and the plurality of frame packets, the packet containing the forward error correction code being identified with a user data identifier code (fig.4, element 408).

Rhee does not specifically disclose the limitation "exclusive of the remaining portions of each of the plurality of frame packets." However, Ayanoglu teaches the generation of forward error correction data for the selected portions of packet data exclusive of the remaining portions of each of the plurality of frame packets (see fig.3 and col.5, ln.28 to col.6, ln.21, Ayanoglu discloses a byte-level FEC scheme for adaptively forward error correcting the selected portions of packet data that excludes the other remaining portions of each of the numerous frame packets in that the corrupted bytes of packet data are corrected depending on the error threshold). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Rhee and Ayanoglu, as a whole, for providing an accurate, cost-effective, efficient, robust forward error correction scheme to aid the transmission of packetized data (Ayanoglu col.1, ln.65 to col.2, ln.3).

Regarding claims 2 and 16, Rhee discloses wherein the transmission of the forward error correction bits in the separate packet is MPEG-4 compliant (col.5, ln.19).

Regarding claims 5 and 18, Rhee discloses wherein the forward error correction bits are generated using a systematic code (col.6, ln.19-23).

Regarding claims 6 and 19, Rhee discloses wherein the selected portions of packet data includes motion vector data and DCT data (col.5, ln.18-20; MPEG encoding/decoding must utilize motion vector data and DCT data).

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Regarding claims 7 and 20, Rhee discloses wherein the selected portions of packet data includes only header data, motion vector data and DCT data (col.5, ln.18-20; MPEG encoding/decoding must utilize header data, motion vector data and DCT data).

Regarding claims 11, 15 and 22, Rhee discloses an error correction generation circuit, comprising:

a processor coupled to a processor readable memory (col.5, ln.2-10; note computer or workstation to execute instructions embodied in a computer readable medium);

a first instruction sequence stored in the processor memory and operable to cause the processor to select portions of packet data from each of a plurality of frame packets of a corresponding packetized data frame (col.6, ln.10-23, note in fig.4, the adapter provides data to the transmitter 408 for selected packet data portions);

a second instruction sequence stored in the processor readable memory and operable to cause the processor to generate forward error correction data for the selected portions of packet data (col.6, ln.10-19; FEC bits are generated);

a third instruction sequence stored in the processor readable memory and operable to cause the processor to store the forward error correction data in a packet separate from the plurality of frame packets (fig.4, element 408 stores the FEC information); and

a fourth instruction sequence stored in the processor readable memory and operable to cause the processor to identify the separate packet with a data identifier

code (col.6, ln.10-23; note element 414 can identify the first packet and determine the FEC correction if necessary).

Rhee does not specifically disclose the limitation “exclusive of the remaining portions of each of the plurality of frame packets.” However, Ayanoglu teaches the generation of forward error correction data for the selected portions of packet data exclusive of the remaining portions of each of the plurality of frame packets (see fig.3 and col.5, ln.28 to col.6, ln.21, Ayanoglu discloses a byte-level FEC scheme for adaptively forward error correcting the selected portions of packet data that excludes the other remaining portions of each of the numerous frame packets in that the corrupted bytes of packet data are corrected depending on the error threshold). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Rhee and Ayanoglu, as a whole, for providing an accurate, cost-effective, efficient, robust forward error correction scheme to aid the transmission of packetized data (Ayanoglu col.1, ln.65 to col.2, ln.3).

1. Claims 4, 10, 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhee (6,289,054) and Ayanoglu (5,600,663) in view of Lewis (6,601,209).

Regarding claims 4, 10, 17 and 24, Rhee does not specifically disclose wherein the forward error correction bits are generated using a BCH code. However, Lewis teaches the use of BCH code for error correction of data during transmission (col.3, ln.54-63). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Rhee, Ayanoglu and Lewis, as a whole, for accurately,

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efficiently, reliably transmit compressed MPEG data while maintaining high quality of the transmitted video data (Lewis col.2, ln.38-41).

2. Claims 8, 9, 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhee (6,289,054) and Ayanoglu (5,600,663) in view of Tan (6,075,576).

Regarding claims 8-9, 13 and 21, Rhee does not specifically disclose further comprising: setting a flag indicating that a fixed Video Object Plane (VOP) increment is to be used; and providing a corresponding fixed time increment value. However, Tan teaches the use of VOP time increment data (see figs.3A, 3B and col.4, ln.44-67; note VOPs are disclosed and that clearly, VOPs are incremented accordingly in a similar sequential manner as I, P and B frames, where corresponding fixed offset exists to provide a fixed time increment value). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Rhee, Ayanoglu and Tan, as a whole, for accurately, efficiently coding and decoding video image data and coefficients, while maintaining high image quality when synchronizing VOPs of different rates (Tan col.2, ln.1-16).

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rhee (6,289,054) and Ayanoglu (5,600,663) in view of Watanabe (6,084,888).

Regarding claim 14, Rhee discloses the use of MPEG-4 (col.5, ln.18-20). It is well known in the art that a packet must have a header extension code. However, if one is not convinced, Watanabe teaches the use of a Header Extension Code (HEC) in every packet in a first sequence of packets (fig.2, note header extension codes are

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used). Therefore, it would have been obvious to one of ordinary skill in the art to apply the teachings of Rhee, Ayanoglu and Watanabe, as a whole, for improving the transmission efficiency of packetized data of coded data while accurately encoding the video data by reducing header data errors (Watanabe col.8, ln.57-63).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341.

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The examiner can normally be reached on Mondays to Thursdays from 8am-6pm
Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Allen Wong
Primary Examiner
Art Unit 2613

AW
6/9/05